

## BUTTER

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Butter is made by churning milk fat. It has a solid, waxy texture and varies in colour from almost white to deep yellow. It is mostly made from cow's milk, but water buffalo milk is used in the India

Edible fat made from milk. A churning process changes the milk from a water-in-oil emulsion to an oil-in-water emulsion. The fat (oil) globules of the milk collide and coalesce, losing their protective shield of protein and turning into butter, thus separating out from the more watery whey.



- Butter may be defined as a fat concentrate, obtained by churning cream, gathering the fat into compact mass and then working it.
- According to the PFA rules (1976), table creamery butter is the product obtained from cow or buffalo milk or a combination thereof, or from cream or curd from cow or buffalo milk or a combination thereof with or without the addition of common salt and annatto or carotene as colouring matter. It should be free from other animal fats, wax, and mineral oils, vegetable oils and fats. No preservatives except common salt and no colouring matter except annatto and carotene may be added. It must contain not less than 80% by weight of milk fat, not more than 1.5 % by weight of curd, and, not more than 3% by weight of common salt. Diacetyl may be added as a flavoring agent but, if so used the total diacetyl content must not exceed 4 ppm. calcium hydroxide , sodium carbonate, sodium polyphosphate may be added, but must not exceed the weight of butter as whole by more than 0.2 %.

Commercial butter contains about

- 80% fat,
- 1–3% added salt,
- 1% milk solids and
- 16% water.

### **Classification**

Many kinds of butter are found in the market. This differs with the type of cream from which they are made, and with variations in the manufacturing process. The types of butter are

- **Pasteurized cream butter**
  - Made usually from pasteurized sweet cream. Such butter usually has a milder flavour than that made from similar cream not pasteurized.
- **Ripened cream butter**
  - Butter made from the cream in which butter culture is added and incubated till the desired acidity and flavour are produced. Properly made ripened cream butter has a delicate flavour which is referred to as ‘real butter flavour’
- **Unripened cream butter**
  - Made from unripened cream.
- **Salted butter**
  - Butter to which salt has been added
- **Unsalted butter**
  - Contains no added salt.
- **Sweet cream butter**
  - Butter produced from cream in which the acidity does not exceed 0.2% in the churned cream.
- **Sour cream**
  - Made from cream in which the acidity exceeds 0.2%.
- **Fresh butter**
  - Butter that does not undergo cold storage.
- **Cold storage butter**
  - Butter stored at a temperature of about  $-18^{\circ}\text{C}$  for some time.
- **Dairy butter (USA)**
  - Made on farm. It is usually made from unpasteurised sour cream, which has not been standardized for

acidity. This butter generally has a sour flavour due to the high acid content of cream.

- **Creamery butter**
  - Made in a creamery or dairy factory. It is more uniform in quality than dairy butter.

### **Composition**

According to PFA Rules (1976) Table/Creamery Butter should contain not less than 80% fat, not more than 1.5 % curd and not more than 3% common salt. The typical composition of Indian butter has been given below.

<b>Constituent</b>	<b>Percentage</b>
Butterfat	80.2
Moisture	16.3
Salt	2.5
Curd	1.0

Butter is very rich in fat and fat-soluble vitamins.